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Cooperative Economic Insect Report

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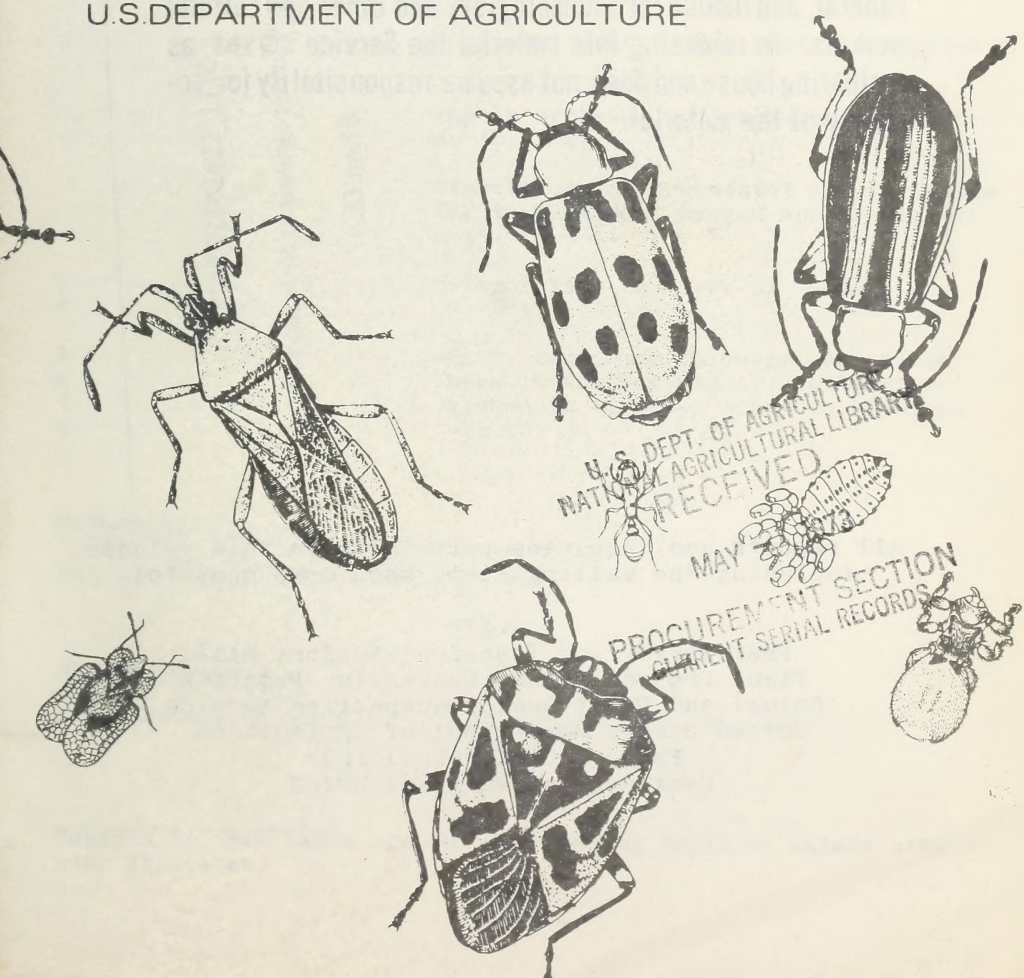

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The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 23 May 4, 1973 Number 18

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMYWORM moths appeared in light traps in several areas. (pp. 249, 260). ASTER LEAFHOPPER taken for first time this season in Minnesota. GREENBUG increased on small grains in Rolling Plains of Texas but still light; detected on sorghum in southeastern area. (pp. 249-250).

SOUTHERN CORN ROOTWORM continued to damage sorghum and corn seedlings in south-central Texas. (p. 250).

ALFALFA WEEVIL increased in several areas, some controls applied. (pp. 251-252).

Several FRUIT PESTS appearing in orchards and pheromone traps; some larval damage reported. (p. 255).

COOLEY SPRUCE GALL APHID infestations on ornamental and Christmas tree plantings of Douglas-fir in northwest Oregon appear heavier than normal. (p. 256).

NORTHERN FOWL MITE heavy on layer hens in areas of Georgia and Florida. (p. 258).

EUROPEAN CRANE FLY larvae heavy, caused up to 50-percent yield reduction in clover and grasses in Whatcom County, Washington. (p. 258). GYPSY MOTH eggs hatched in infested areas in Michigan and Ohio. (p. 250).

Detection

For new county record see page 254.

Special Reports

Distribution of Northern Corn Rootworm. Map. (p. 261).

Reports in this issue are for week ending April 27 unless otherwise indicated.

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NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK

MAY 1973

The National Weather Service's 30-day outlook for May is for temperatures to average below seasonal normals over the southern Plateau, the central and southern Plains, and the South. Above normal temperatures are indicated for the Northwest, the Pacific coast, and the upper Great Lakes. Elsewhere near normal temperatures are in prospect. Precipitation is expected to exceed normal over most of the eastern third of the Nation. Subnormal totals are indicated for the upper Mississippi Valley, most of the northern Plains, and west of the Divide. In unspecified areas near normal amounts are expected.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

WEATHER OF THE WEEK ENDING APRIL 30

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

HIGHLIGHTS: From Dubuque, Iowa, to Reserve, Louisiana, 1,400 miles of the Mississippi River, swollen by weeks of rain and snow, flooded fields and cities. A record flood crest of 43.5 feet peaked at St. Louis on Sunday. This was the worst flood ever, breaking the 1785 mark. Torrential rains drenched the Deep South and eastern Texas.

PRECIPITATION: The week was damp in the East, dry in the West. In the drought area of the Pacific Northwest, there was less than 0.3 inch of rain. In the Deep South, Texas, and parts of the Plains, violent spring storms erupted, bringing thunderstorms, torrential rains, hail, and tornadoes. Weather of the week continued on page 262.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMY CUTWORM (Euxoa auxiliaris) - KANSAS - Larvae severely damaged alfalfa in Finney County by April 15. By April 18, three days after treatment, larvae averaged 4 per square foot. Second Finney County field showed less than one per square foot. Ranged none to trace in wheat in Sherman and Cheyenne Counties. (Bell). OKLAHOMA - Larvae light in small grains in Washita, Caddo, and Beckham Counties. (Okla. Coop. Sur.).

ARMYWORM (Pseudaletia unipuncta) - ARKANSAS - Due to adverse weather conditions, survey difficult in eastern part of State. None found in fields surveyed; infestations usually begin this time of year. (Boyer). KANSAS - First 5 moths of season taken in blacklight trap at Manhattan, Riley County, April 23. (Bell). WISCONSIN - Single adult taken in blacklight trap at Mazomanie, Dane County. (Wis. Ins. Sur.). MICHIGAN - Appeared April 17 at Lenawee County blacklight trap. Limited numbers of moths collected through April 23. (Newman). OHIO - First moths of season collected in blacklight traps April 21. This is 2 days later than average first appearance for past 6 years. Females began to deposit eggs in insectary April 21. (Rings). DELAWARE - Adults ranged 2-3 per night in blacklight traps in Sussex County. (Burbutis).

ASTER LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Collected for first time this year April 24; counts light, averaged one per 800 sweeps. Probably entered State about April 20 on strong southerly winds. (Minn. Pest Rpt.).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Spring treatment in Kern and Kings Counties progressing; 4,186 acres treated on westside of Kern County in vicinity of Taft and Maricopa; 1,645 acres treated on eastside of Kettleman Hills in Kings County. Most host vegetation showed varying degrees of drying throughout treatment areas along westside of San Joaquin Valley. Spring adults increasing; indicates spring brood maturing rapidly. Some appreciable population shifts to greener vegetation in breeding ground noticed. Spraying of roadside weed hosts in Imperial Valley completed; 234 additional miles of roadside weed hosts treated. (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Infestations noted on grain sorghum in Calhoun, Victoria, Guadalupe, and Brazos Counties. (Cole).

GREENBUG (Schizaphis graminum) - TEXAS - Still light on small grains in Rolling Plains area even though counts doubled over those of previous week in many fields. Ranged 20-75 per row foot in most heavily infested fields in Wilbarger, Foard, Wichita, Archer, Knox, and Haskell Counties. Light, 0-19 per row foot in many fields in these counties and in Throckmorton County. Number of parasitized greenbugs reported in wheat fields increased greatly during past week; ranged 2-7 per row foot in fields in Archer and Wichita Counties. Beneficial species (nabids, lady beetle larvae, and spiders) attacked S. graminum in small grain fields in Archer, Wilbarger, Foard, and Wichita Counties. Greenbug populations throughout Panhandle and South Plains areas generally light on small grains. Fields in Bailey County, near

Muleshoe, infested with 20-2,000 greenbugs per row foot. Severe damage noted in untreated fields. Many fields in area treated past 14 days. (Boring, Ward). Light, scattered populations detected on sorghum in Guadalupe and Brazos Counties. (Cole). NEW MEXICO - Averaged less than one per linear foot in wheat in Lea County. (N.M. Coop. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ILLINOIS - Ranged up to 2 per 10 sweeps of alfalfa in Greene County. (Ill. Ins. Rpt.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - INDIANA - Pupation underway as far north as Tippecanoe County. (Hogg). MARYLAND - Pupation continued on Eastern Shore. Most stalks underground; however, pupation still at 20 percent rate in Talbot, Queen Annes, Kent, and Dorchester Counties. No pupation west of Chesapeake Bay. (U. Md., Ent. Dept.). DELAWARE - Pupation of overwintering larvae in central Sussex County averaged 20 percent. (Burbutis).

FALL ARMYWORM (Spodoptera frugiperda) - FLORIDA - This species and S. exigua (beet armyworm) widespread in Everglades area, Palm Beach County, on sweet corn. S. frugiperda heaviest (80 percent); S. exigua (20 percent) harder to control. (Fla. Coop. Sur.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - TEXAS - Heavy populations still damaging sorghum and corn seedlings throughout south-central area. (Cole).

CORN FLEA BEETLE (Chaetocnema pulicaria) - ILLINOIS - Heavy enough on 2-inch sweet corn in Madison County to need treatment; ranged up to 2 per plant. (Ill. Ins. Rpt.).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - WISCONSIN - Averaged one per 100 sweeps in rye in Spring Green area, southern Sauk County, and at Prairie du Chien, southern Crawford County. All alates. (Wis. Ins. Sur.).

A GRAIN APHID (Rhopalosiphum padi) - CALIFORNIA - Nymphs and adults present on barley at King City, Monterey County. Much treatment necessary in many locations past 3 weeks. (Cal. Coop. Rpt.).

RICE STINK BUG (Oebalus pugnax) - ARKANSAS - Light in about half of small grain fields surveyed. Ranged 0-44 (averaged 11) per 100 sweeps. (Boyer).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Light, 12-30 per row foot in small grains in Haskell County. Also light, 1-10 per row foot in some fields in Knox, Throckmorton, and Foard Counties. (Boring).

TURF, PASTURES, RANGELAND

BROWN WHEAT MITE (Petrobia latens) - WASHINGTON - Infested 150 acres of orchard grass near George and Moses Lake in Grant County; damage 60 percent. (Foeppel). UTAH - Moderate on planted grasses at Beaver Dam, Box Elder County. (Knowlton, Haws).

PAINTED LADY (Vanessa cardui) - UTAH - Small number of adults in flight through Curlew Valley and Beaver Dam areas of Box Elder County. (Knowlton, Haws). Flight moderate at St. George, Washington County, April 19. (Davis). Also see page 253.

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - WASHINGTON - Averaged one adult per 15 sweeps in alfalfa seed field near Touchet, Walla Walla County, April 21. (Johansen). IDAHO - In one alfalfa field at Weiser, Washington County, fourth-instar larvae ranged 1-2 per sweep; few adults seen. (Bolz). UTAH - Larvae up to fourth instar in alfalfa at Hurricane, Washington County. (Davis, Parrish). KANSAS - Generally light in alfalfa. Occasional fields warrant frequent checking for damaging buildups in east-central, south-central, central, and north-central districts. High count of 28 larvae and 114 adults per 100 sweeps with about 30 percent infested terminals noted as far north and west as Ottawa County in north-central district near Bennington. Larvae mostly second and third instars, some first instars noted. (Bell). OKLAHOMA - Infestations declining in south-central area; moderate in Pontotoc, Bryan, and Garvin Counties. Continued heavy in most other areas except northwest and Panhandle. Ranged 500-600 larvae per square foot in west-central counties, 60-300 in Tulsa County. In Payne County, all larval stages averaged 1,700 per 10 sweeps; adults common, few pupae. Many fields treated for second time in southern counties. Counts increased in Ellis County, larvae 25-100 per square foot. (Okla. Coop. Sur.).

MISSOURI - H. postica larvae in southeast and south-central areas ranged 2-5 per alfalfa plant. Percent of plants with terminal feeding damage ranged 18-81. Most fields checked should be treated when weather permits. (Munson). IOWA - No larvae detected in 2 Story County alfalfa fields. (Iowa Ins. Sur.). WISCONSIN - Survey of 3 test alfalfa fields checked March 15, showed increase in egg counts. Previous counts per 5 square feet were 499, 216, and 384 at these 3 sites. Current counts were 577, 348, and 620, respectively. Most eggs still on old, dry stems; only small number freshly laid. No hatch noted. (Wis. Ins. Sur.). ILLINOIS - Economic in alfalfa throughout southern quarter of State; up to 120 per sweep in fields south of U.S. Route 13 and up to 80 per sweep in area between I-70 and U.S. Route 13. Potential damage in many fields in area serious due to frost damage, heavy weevil populations, and wet fields preventing ground treatment. Some egg hatch found in all counties in State. (Ill. Ins. Rpt.).

INDIANA - Large numbers of eggs hatched. Larval infestation rates doubled in three south-central counties; damage evident in fields as far north as Seymour. Controls on some early cuttings recommended as far north as Jackson County. (Meyer). MICHIGAN - First active adults and damage to alfalfa noted April 14 near Mason, Ingham County. Controls may be needed if wet weather continues. (Ruppel). OHIO - Adults moving into alfalfa in Franklin County; heavy oviposition noted. Eggs collected in Franklin (April 1) and Wayne (April 5) Counties parasitized by Patasson luna (a mymarid wasp); parasitism 5 and 2 percent, respectively. (Horn).

MISSISSIPPI - H. postica larvae ranged 4-6 per stem on alfalfa in Washington County. (Miller). GEORGIA - Caused light damage to clovers and vetch in Spalding County week ending April 20. (Tippins). SOUTH CAROLINA - All alfalfa in State treated once; infestations rapidly reaching levels needing second application. (Thomas, Apr. 19). TENNESSEE - Surveys in 11 fields in 9 counties showed larvae ranged from 19 to 52 per 50 tips, with 19 to 50 tips infested per 50 tips examined. Tip damage as high as 95 percent in Dyer County. (Gordon et al.). KENTUCKY - Populations in alfalfa increased since controls applied in southern areas; will most likely be needed again before first cutting. Averaged 267 larvae and 72 eggs per square foot with defoliation of 60-70 percent in some fields in Barren County. Economic in western areas. Larvae averaged 4.3+ per tip at one Caldwell County location; averaged 1,600 per 100 sweeps with 35 percent of tips infested at another location. In treated field, larvae averaged 160 per 100 sweeps with 10-15 percent tip infestation. (Barnett et al.). VIRGINIA - Based on 11 fields surveyed (87 acres) in 6 counties, tip infestation of 6-inch tall alfalfa was 66 percent. Average estimated defoliation 19.1 percent. Of fields examined, 5 exceeded economic threshold of infestation (25 of 50 tips infested or 50 percent defoliation). (Allen et al.).

MARYLAND - H. postica larval counts and damage light throughout State. Heaviest injury restricted to Frederick and Washington Counties. To date fields with southern exposure show 3-8 percent tip damage. All instars present; however, eggs continue to hatch throughout State. Adults light, 1-2 per 20 sweeps in Kent, Baltimore, and Frederick Counties; larvae 10-60 per 20 sweeps. First sprays applied by first week in May; however, season has been cool, controls should not be needed before third week in May. Alfalfa growth good statewide, although fields wet. (U. Md., Ent. Dept.). NEW YORK - Egg incidence in 3 study fields in central and western areas increased slowly first 2 weeks of April due to snow and cool weather. Egg parasitism in these fields ranged 2.75-17.3 percent. (N.Y. Wkly. Rpt., Apr. 23).

CLOVER LEAF WEEVIL (Hypera punctata) - ILLINOIS - Small numbers of larvae found in alfalfa in southern half of State. Counts ranged up to 2 per sweep in Greene and Menard Counties. (Ill. Ins. Rpt.).

CLOVER HEAD WEEVIL (Hypera meles) - TEXAS - Adults collected on south side of Somerville Reservoir, Washington County, by D.B. Gates March 31, 1971. Determined by R.E. Warner. This is a new county record. (PPQ).

PEA LEAF WEEVIL (Sitona lineatus) - WASHINGTON - Overwintering adults notched leaves of alfalfa in Whitman County. (Retan).

BEAN LEAF BEETLE (Cerotoma trifurcata) - KANSAS - Adults common in alfalfa surveyed in some east-central counties. Range per 100 sweeps by county: Douglas 8-30, Lyon 12, Wabaunsee 0-20. (Bell).

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Light in alfalfa near Hobbs and Lovington, Lea County. (N.M. Coop. Rpt.). TEXAS - Light to moderate in alfalfa in Maverick County. Numerous Hippodamia convergens (convergent lady beetle) present. (Stewart). OKLAHOMA - Averaged 1,000 per 10 sweeps in Payne County alfalfa. Light to moderate in Garvin County, moderate to heavy in Pawnee County. (Okla. Coop. Sur.). MISSOURI - Increased in southeast and

south-central area alfalfa. Ranged 30-200 per 10 sweeps. (Munson). ILLINOIS - Remained light and noneconomic throughout surveyed area. Heaviest counts of Acyrthosiphon pisum averaged about 10 per sweep in southwest district. (Ill. Ins. Rpt.). KENTUCKY - Increased in central area alfalfa; averaged 400 and 800 per 100 sweeps in two Fayette County fields. (Barnett). MARYLAND - Counts still sub-economic in alfalfa stateside; ranged 20-40 per sweep in heaviest infested fields in Kent, Queen Annes, and Harford Counties. Hymenopterous parasites active; parasitism ranged 5-10 percent. (U. Md., Ent. Dept.).

REDBACKED CUTWORM (Euxoa ochrogaster) - WASHINGTON - Third instars and younger ranged up to 20 per square foot in alfalfa near Prosser, Benton County. Damage minor but expected to increase as larvae grow. (Klostermeyer).

ALFALFA CATERPILLAR (Colias eurytheme) - NEVADA - Adults numerous in scattered alfalfa fields in Stillwater area, Churchill County. (Stitt).

TOBACCO

TOBACCO BUDWORM (Heliothis virescens) - GEORGIA - Larvae ranged 6-24 per 100 plants in Tift and Cook Counties. (French). Damaged tobacco in Ware County as of April 17. (Boland).

BEANS AND PEAS

PEA LEAF WEEVIL (Sitona lineatus) - OREGON - Damaged most seedlings in field of peas in Umapiner and Lowden area, Umatilla County. (Burkhart, Apr. 18).

COLE CROPS

PAINTED LADY (Vanessa cardui) - CALIFORNIA - Migrating adults passed Arroyo Grande, San Luis Obispo County, on northern migration; this is sooner than expected. Larvae averaged 10 per leaf on cabbage and weed plants in Arroyo Grande. Commercial cabbage is one crop damaged by this insect; later hops are involved. (Cal. Coop. Rpt.). Also see page 251.

GENERAL VEGETABLES

ASPARAGUS BEETLE (Crioceris asparagi) - MARYLAND - Sprays applied in Kent County commercial asparagus fields. Beetle counts decreased from 8-30 per 50 spears to 0-2 per 50 spears. (U. Md., Ent. Dept.). DELAWARE - Adults numerous on asparagus throughout State. (Boys).

REDBACKED CUTWORM (Euxoa ochrogaster) - WASHINGTON - Caused 50 percent damage to 12 acres of asparagus near Granger, Yakima County. (Turner, Tamaki). One larva per stalk in asparagus field west of Eltopia, Franklin County. Other fields in this area infested; damage moderate to severe. (Johansen).

GARDEN WEBWORM (Loxostege rantalis) - IDAHO - Second-instar larvae damaged seedling carrots at Lewiston, Nez Perce County. (Kambitsch).

A LEAFMINER FLY (Liriomyza trifolii) - FLORIDA - Developed economic levels during April on commercial celery and lettuce at Belle Glade, Palm Beach County; expected to decline within few weeks. (Fla. Coop.).

HAWAII INSECT REPORT

General Vegetables - LEAFMINER FLIES (Liriomyza spp.) and GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) very heavy on cucumbers at Waimanalo, Oahu. All stages of T. vaporariorum heavy on young leaves. Liriomyza spp. larval mines heavy on older leaves. About 85 percent of mostly older leaves nearly white with leafminer activity. Adults heavy on younger leaves, 12-15 on many leaves; pupae also heavy on many leaves. BEET ARMYWORM (Spodoptera exigua) and Lriomyza spp. light on green onions at Pearl City, Oahu; 5-10 percent of leaves affected. S. exigua eggs trace. CABBAGE WEBWORM (Hellula rogatalis) heavy on mature daikon at Pearl City; about 70 percent of terminals with one or more early larvae.

Forest and Shade Trees - All stages of MELON APHID (Aphis gossypii) sporadically heavy on fruiting pods and young terminals of pink tecoma (Tabebuia pentaphylla) trees along boulevard at Kailua, Oahu. Adults of a BARK BEETLE (Xylosandrus compactus) trace on these trees.

Fruits and Nuts - PALM MEALYBUG (Palmicultor palmarum) and COCONUT SCALE (Aspidiotus destructor) light to moderate and sporadic on about 100 young coconut trees at Koko Head, Oahu. Palm mealybug infested 5-10 percent of trees; larvae and adults of Cryptolaemus montrouzieri (a lady beetle) moderate among infestation. Coconut scale colonies light on young fronds of 40 percent of trees; 10-15 percent of pinnae infested. Larvae and adults of Lindorus lophanthae (a lady beetle) light on infested pinnae. (Kawamura).

DETECTION

New County Record - CLOVER HEAD WEEVIL (Hypera meles) TEXAS - Washington (p. 252).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - MICHIGAN - Scattered adults appeared in pheromone traps in Berrien County week ending April 23. (Sauer). WASHINGTON - Collected 30 moths in 3 pheromone traps during period April 17-23 near Wapato, Yakima County; orchard in 75 percent bloom. (Wittie). CALIFORNIA - Treatment now underway; warm to hot daytime temperatures hastened egg hatch in pear and apple orchards in Sacramento Valley. (Cal. Coop. Rpt.).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - MICHIGAN - Moths began emerging April 15 in Berrien County; now active throughout southwestern counties. Appeared in Hart and Shelby areas of Oceana County April 19; counts 20+ per pheromone trap. (Sauer). OHIO - Adults taken in heavy numbers in pheromone traps April 17-24 in Wayne County. (Hall). MARYLAND - Eggs hatched statewide, populations very light. No controls required. (U. Md., Ent. Dept.). NEW YORK - Trap catches continued at high levels in Ulster, Dutchess, and Orange Counties. First moths noted April 23 in Monroe and Orleans Counties. Large numbers of male moths in pheromone traps since April 20 near Lake Ontario in Niagara County. (N.Y. Wkly. Rpt.).

FRUITTREE LEAFROLLER (Archips argyrospilus) - MICHIGAN - Early instar larvae appeared in orchards of Van Buren and Berrien Counties. If not controlled, feeding and webbing will destroy many opening leaf and fruit buds. (Sauer).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - OKLAHOMA - Damage to wild plum continued in most areas. Heavy on plum trees in Pontotoc County, moderate on peach trees in Bryan County, and moderate on crab apple in Mayes County. (Okla. Coop. Sur.).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Overwintered larvae active in pecan terminals in Payne County. (Okla. Coop. Sur.).

PEAR PSYLLA (Psylla pyricola) - MICHIGAN - Adult and egg laying activity increased rapidly with warmer temperatures. (Sauer, Apr. 23). NEW HAMPSHIRE - Egg laying underway in southern part of State. (Bowman, Apr. 23). CONNECTICUT - First nymph observed at Storrs April 19. Egg laying heavy since then; hatch less than 10 percent. Nymphs reported at New Haven, adults and eggs at East Lyme. (Savos).

EUROPEAN RED MITE (Panonychus ulmi) - CONNECTICUT - Hatch of overwintered egg began April 18 at Storrs; about 90 percent hatched by April 24. Also hatched at Woodstock and New Haven. (Savos). MARYLAND - Eggs hatched in Washington, Baltimore, and Prince Georges Counties. Populations light. Controls should not be required for at least 21 days. (U. Md., Ent. Dept.). MICHIGAN - Winter eggs hatched in southern counties. Field counts April 26 showed 10 immatures per leaf in several orchards without oil applications or prebloom miticides. (Sauer).

SMALL FRUITS

STRAWBERRY WEEVIL (Anthonomus signatus) - MICHIGAN - Migration to strawberry plantings and bud clipping began April 24 in Berrien County. Infestations and bud damage in problem plantations will continue through bloom. (Sauer).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - PENNSYLVANIA - First spring generation adults collected in pheromone traps April 12-16 in Concord grape vineyard at North East, Erie County. Averaged 2 per trap in 16 traps. (Jubb).

FOREST AND SHADE TREES

COOLEY SPRUCE GALL APHID (Adelges cooleyi) - OREGON - Very prevalent on northwestern area Douglas-fir planted as ornamentals and in Christmas tree plantations. Populations appear heavier than normal. (Penrose).

RED PINE SCALE (Matsucoccus resinosae) - NEW YORK - Damage to Pinus resinosa observed April 19 in Westchester County. Intermediate stage of summer generation present. Infestation ranged light to very heavy on trees of 6 to 8-inch caliper. (N.Y. Wkly. Rpt.).

PINE FALSE WEBWORM (Acantholyda erythrocephala) - PENNSYLVANIA - Egg masses and single male moth collected on white pine and 100 adults on small Mugho pine April 24 at State College, Centre County; females laying eggs. (Mumma, Adams).

SILVERSPOTTED TIGER MOTH (Halisidota argentata) - OREGON - Larvae abundant on coast pine (Pinus contorta) in western area this spring. Heaviest populations reported in coastal areas, particularly around Bandon and Coos Bay, Coos County. (Kline).

ELM LEAF BEETLE (Pyrrhalta luteola) - CALIFORNIA - Adults present around residence in Modesto, Stanislaus County; feeding on elms at few locations in Sacramento, Sacramento County. (Cal. Coop. Rpt.). NEVADA - Adults active on elm in southern Washoe County but no eggs found. (Nev. Coop. Rpt.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - FLORIDA - First adult of season appeared in blacklight trap at Gainesville, Alachua County, April 25. (Fla. Coop. Sur.).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - MICHIGAN - Egg hatch observed April 19 on Prunus spp. in Lansing area of Eaton, Ingham, and Clinton Counties. (Sauer).

A NOCTUID MOTH (Oncocnemis punctilinea) - NEVADA - Larvae caused medium damage to ash trees at Las Vegas, Clark County. (Hoff).

MAN AND ANIMALS

FACE FLY (Musca autumnalis) - MARYLAND - Annoying in all counties west of Kent and Prince Georges Counties. Heaviest counts ranged 10-30 per head on dairy and beef livestock. (U. Md., Ent. Dept.). MISSISSIPPI - Ranged 1-2 per face on beef cattle in Monroe County. Light infestations probably due to very wet conditions. (Robinson).

SCREWWORM (Cochliomyia hominivorax) - During period April 15-21, there were 5 confirmed cases reported in the continental U.S. as follows: Texas 2, New Mexico 1, Arizona 2. These include first cases of current calender year in Cochise and Pinal Counties, Arizona; Hidalgo County, New Mexico; and De Witt County, Texas. Case in New Mexico coincides with first case reported in 1972, but cases in Arizona are about 30 days later than first cases last year. Total of 65,544,000 sterile flies released in U.S. as follows: Texas 61,704,000, New Mexico 225,000; Arizona 3,615,000. Sterile flies released in Mexico totaled 122,407,500. (Anim. Health).

CATTLE CRUBS (Hypoderma spp.). - KENTUCKY - Larvae, mainly H. bovis (northern cattle grub), averaged 1.9 per animal on backs of Holstein dairy cows of various ages in Fayette County. (Barnett). WYOMING - H. bovis ranged 3-16 (average 7) on untreated yearling heifers, 1-13 (average 3) on cows, and 1-13 (average 5.6) on untreated calves from Campbell and Laramie Counties. (Lloyd et al.).

HORN FLY (Haematobia irritans) - ALABAMA - Occurred on cattle in Madison County in heavier numbers and earlier than in most years. (Halla). MISSISSIPPI - Averaged 50+ per cow in Oktibbeha and Monroe Counties. (Robinson). TEXAS - Increased rapidly throughout much of south-central area on cattle during past few days. (Cole). OKLAHOMA - Ranged 15-25 per head on cattle in Delaware County. Moderate in Comanche County, light in Garvin County. (Okla. Coop. Sur.).

MOSQUITOES - MAINE - Hatch erratic in many areas due to unusually warm and comparatively dry weather conditions. Some pupae present, but many eggs not hatched. Heavy rains could cause additional hatch next few weeks. Unusual conditions made control applications difficult. (Gall). KENTUCKY - Various species numerous in western area, especially Hopkins County; annoying residents. (Barnett, Knapp). GEORGIA - Nuisance in late afternoon and early evening in residential areas over State week ending April 20. (Nolan). ALABAMA - Culex pipiens quinquefasicatus and possibly other species developed heavy populations in Lee County; problem in late evenings at outdoor living areas. (McQueen). MISSISSIPPI - Aedes vexans, A. triseriatus, C. pipiens quinquefasciatus, and Anopheles quadrimaculatus biting in low areas of Washington County. (Miller).

INDIANA - Aedes sticticus adults biting in Daviess County alfalfa fields near long-inundated areas. Determined by D. Shroyer. (Meyer). MINNESOTA - Aedes cinereus, A. excrucians, and A. stimulans most common species in larval collections week ending April 21. First Culiseta inornata larvae reported. Much pupation occurred April 23-26, some adult emergence expected by April 29. (Minn. Pest Rpt.). WYOMING - Aedes spp. larvae and some adults found in pools in Albany County west of Laramie April 13-16. (Forcum). UTAH - First mosquito larvae appeared in warmer areas of Weber County March 10. Currently, Aedes dorsalis first to fourth instar larvae ranged up to 50 per dip. A. increpitus larvae ranged up to 1,000 per dip in riverbottoms. Overwintering Anopheles freeborni were only adults found April 18. (Fronk). ARIZONA - Aedes vexans, Culex tarsalis, C. pipiens quinquefasciatus, and Culiseta inornata present in Gila Valley, Yuma County. (Ariz. Coop. Sur.).

CATTLE LICE - WYOMING - Haematopinus eurysternus (shortnosed cattle louse) ranged zero to heavy on untreated beef cattle herd in Albany County. Linognathus vituli (longnosed cattle louse) ranged moderate to heavy on untreated calves, and Solenopotes capillatus (a wrinkled sucking louse) light on untreated beef herd in same county. Bovicola bovis (cattle biting louse) light on these calves. (Khan).

NORTHERN FOWL MITE (Ornithonyssus sylviarum) - GEORGIA - Heavy on caged layer hens in various parts of State week ending April 20. Winter infestations among heaviest in recent years. (Nolan). FLORIDA - Heavy on layer hens at several locations near Gainesville, Alachua County. (Fla. Coop. Sur.).

GULF COAST TICK (Amblyomma maculatum) - OKLAHOMA - Heavy in ears of calves in Chouteau area, Mayes County. (Okla. Coop. Sur.).

AMERICAN DOG TICK (Dermacentor variabilis) - MINNESOTA - Reported active April 23 and 24 at Rosemount, Dakota County, and Aitken, Aitken County. (Minn. Pest Rpt.).

STORED PRODUCTS

A DERMESTID BEETLE (Dermestes frischi) - NEVADA - Heavy in poultry meal in railroad car in Sparks, Washoe County. (Clark).

BENEFICIAL INSECTS

LADY BEETLES - UTAH - Unspecified species active in giant ryegrass in Beaver Dam area of Box Elder County. (Knowlton, Haws). KANSAS - Coleomegilla maculata most abundant species in alfalfa surveyed in eastern half of State although counts light. Hippodamia tredecimpunctata occasionally dominant in fields in Lincoln and Ellsworth Counties. H. convergens (convergent lady beetle) occasionally most abundant species in Saline, Lincoln, and Ottawa Counties. No immature forms seen. (Bell). ARKANSAS - C. maculata ranged 0-120 (average 56) per 100 sweeps. No eggs or larvae seen; mating observed. (Boyer).

HONEY BEE (Apis mellifera) - OHIO - Due to continued poor weather conditions colony mortality continued quite high. Colony losses in some cases as high as 50 percent. (Connors). GEORGIA - Swarming in Clarke and Habersham Counties. Heavy losses reported past 14 days as result of starvation in mountain area of State. (Coleman).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - MICHIGAN - First active adult seen near Laingsburg, Shiawassee County, in grasses April 19. Single adult observed on wheat in Fairfield Township, Lenawee County, April 23 (Ruppel, Pinkle). OHIO - One adult per 4 sweeps of rye taken in Licking County field. (Blair). WEST VIRGINIA - Eggs averaged one per square foot in Grant County wheat. (Hacker). PENNSYLVANIA - Adults averaged 8 per 100 sweeps on winter barley in Piney Township, Clarion County, April 20. (Palisin, Keim).

EUROPEAN CRANE FLY (Tipula paludosa) - WASHINGTON - Check of dairy farms in Lynden and Ferndale areas of Whatcom County April 16 revealed larvae up to 150 per square foot in some fields. Damage to clover and grasses very evident where populations heavy. Reduction in yield estimated at up to 50 percent. (Campbell et al.).

A GRASS BUG (Labops hesperius) - UTAH - Eggs hatched in Waurhodes Canyon, Utah County; ranged up to 100+ per square foot of crested wheatgrass in one field. (Haws, Knowlton).

GRASSHOPPERS - WASHINGTON - Melanoplus spp. spring hatch underway in southern Franklin County on about 50,000 acres. First instars about 10 per square yard on rangeland north of Pasco and east of Eltopia. No hatch noted at Washtucna. Rangeland extremely dry. (Hokanson). Eggs hatched on Lewiston Hill, Whitman County, April 26. (Blackburn). ARIZONA - Trimerotropis pallidipennis attracted to lights in Safford, Graham County; Wilcox, Cochise County; Tacna, Yuma County; Mesa and Salt River Indian Reservation, Maricopa County. All stages of Melanoplus sanguinipes (migratory grasshopper) averaged 50 per square yard in some alfalfa at Aztec, Yuma County; controls applied. Desert vegetation drying up; T. pallidipennis moving from desert and attracted to lights, have not spread throughout Salt River Valley. (Ariz. Coop. Sur.).

NORTH DAKOTA - Egg development in Cass, Richland, and Ransom Counties ranged from clear to segmented; mostly eyespot and segmented. M. bivittatus (twostriped grasshopper) and M. sanguinipes eggs 3 percent clear, 11 percent coagulated, 49 percent eyespot, and 37 percent segmented. No desiccatted eggs evident. Hatch could start in 5-10 days with 60 degree temperatures. (Brandvik). MINNESOTA - Roadside and field margin surveys in western Kittson and Marshall Counties revealed average counts of 1.1 egg pods per square foot at 14 of 17 locations. If weather favorable at hatching time, locally heavy infestations likely in roadsides and fields margins in area. Eggs ranged from coagulated to segmented; M. bivittatus showed most development. Checks in western Polk County revealed very few eggs. (Minn. Pest Rpt.).

GYPSY MOTH (Porthetria dispar) - MICHIGAN - Eggs hatched in Fremont Township, Isabella County, April 23. These eggs from high density infestation detected in 1972. First control application made April 26. (Moore). OHIO - Eggs hatched in Lorain County April 24. These eggs from local infestation detected in 1972. (Roach). PENNSYLVANIA - Eggs hatched in Shawnee Township, Monroe County, April 20. Area is lowland along Delaware River. (Jackowski). NEW JERSEY - Egg hatch dates as follows by county: Cape May April 17; Atlantic, Monmouth, and Ocean April 18; Bergen, Morris, Somerset, and lower Hunterdon April 19; Mercer April 20. Due to exceptionally warm weather, hatch can be considered general in central and southern areas as of April 23. (PPQ).

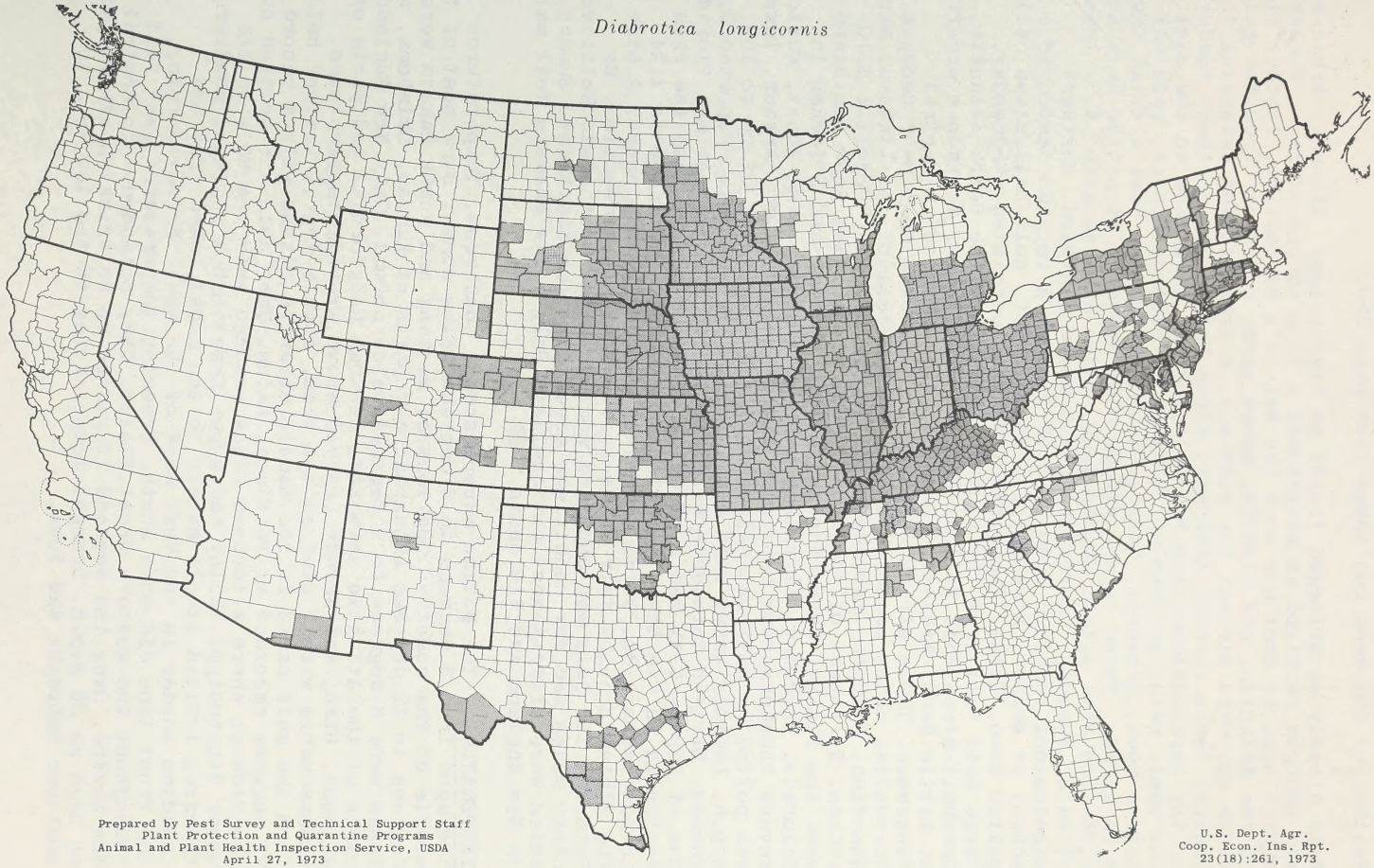
WHITEFRINGED BEETLES (Graphognathus spp.) - GEORGIA - Larvae damaged tobacco in Cook and Lanier Counties. (Smith, Strickland, Apr. 20).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Lasmeryrsia pomonella (codling moth)	Loxostege comstitalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Paridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																							
Dell 4/19-25			BL	8													9	30					
Kelso 4/19-25			BL	4														11					
FLORIDA																							
Gainesville 4/23-27			BL	1				23		1								4	1		5		
MISSISSIPPI (County)																							
Washington 4/20-26			2BL	3	5			4									15	156	2				
NORTH CAROLINA (County)																							
Tyrell 4/18-27			BL													7							
OHIO																							
Wooster 4/20-26			BL	18														12					
PENNSYLVANIA (District)																							
Central 4/17-24			BL	4																			
Southeast 4/17-24			BL															21			1		
TEXAS																							
Waco 4/21-26			BL	24				29									157	351	3		49	13	

Distribution of Northern Corn Rootworm

Diabrotica longicornis



Prepared by Pest Survey and Technical Support Staff
Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service, USDA
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Weather of the week continued from page 250.

Some already waterlogged fields in Mississippi, Alabama, Arkansas, and Georgia received an additional 4 to 5 inches of rain. Monday, a High brought cool air over the Nation's midsection. Another High in the Atlantic, off Florida, moved warm, moist air from the gulf. Where the warm air met the cold air, a front formed extending from central Texas through Arkansas, along Kentucky's northern border, up the Appalachians into Maine. Along the front and to the east and west, rainy and violent weather developed. Monday, rainfall at Little Rock, Arkansas, totaled 4.30 inches; the week's total was 4.72 inches. Three funnel clouds also appeared at Little Rock and 1.25-inch hail pelted Hot Springs, which also received 4.30 inches of rain. Tuesday, torrential rains moved eastward. Northern Mississippi received 1.50 to 2.05 inches. A tornado destroyed a school at Sumner, Mississippi. To the west, golf-ball-sized hail pelted Waco, Texas. The violent weather persisted. Wednesday, large hail fell from the southern Plains to the South Atlantic. Baseball-sized hail fell at San Antonio, Texas. Tornadoes occurred at Little Rock, Arkansas; Decatur, Alabama; and in central Tennessee. Three struck northern Florida, two southwest Georgia. Torrential rains occurred mainly in Mississippi and Alabama. Marion Junction, Alabama, recorded 4.50 inches and Plantersville 4.10 inches. Northwest of the front, cool air spilled snow southward over the Plains. Three inches fell in Wyoming and 5 inches in Colorado. Thursday, it rained over much of the east coast, while severe thunderstorms continued along the gulf. Port Arthur, Texas, was pelted by golf-ball-sized hail and wind gusts of up to 100 m.p.h. Locally heavy rain continued: Alma, Georgia, reported 2.54 inches. Sixteen tornadoes were sighted in Mississippi and Florida. One at Panama City Beach, Florida, injured six. Friday the rain continued in the East. The Florida Panhandle got 4.00 to 4.24 inches; Asheville, North Carolina, recorded 3.01 inches. A high over the Plains brought fair skies to the Nation's midsection. By Saturday the rain was confined mostly to the Northeast. Relatively clear skies and dry conditions moved into the Southeast. Sunday, skies were clear almost nationwide: Only a few showers fell mainly in New England and Wisconsin.

TEMPERATURE: The Nation experienced a cool week. Temperatures averaged from 3 degrees to 6 degrees below normal over most of the middle of the country. Sections of Montana and North Dakota were 9 degrees to 12 degrees subnormal and parts of Kansas, Oklahoma, and Texas were 6 degrees to 9 degrees below normal. Only New England, parts of the Atlantic seaboard, central California, and parts of Arizona, Utah, and Nevada enjoyed above average temperatures. Unseasonable warmth started the week. Eighty-degree weather held from the gulf coast to the Middle Atlantic States with a record 77 degrees recorded at Portland, Maine. Then cold air settled over the Midwest where afternoon highs reached only the 30's in the upper Mississippi Valley and upper Great Lakes regions. However, freezing limited itself mainly to the Great Lakes area and Canadian border in the West most of the week. Friday morning, the frost line did move south. Freezing temperatures were felt throughout the western Great Plains. They extended into central New Mexico. Over the weekend it warmed up as brisk, southerly winds as high as 30 m.p.h. brought temperatures in the low 70's to southern Nebraska and Iowa.

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